

# 2020

1. A method for managing resources within a distributed data processing system, the method comprising the steps of:

in response to receiving the lease request, securing leases on a logical circuit of resources through the distributed data processing system; and

2. The method of claim 1, wherein the step of receiving a lease request for a resource further comprises:

3. The method of claim 2, wherein the step of securing a logical circuit of resources further comprises:

requesting, by the first resource manager, a lease from a second resource manager for a second requested resource along the data path, wherein use of the first requested resource requires use of the second requested resource; and

receiving, at the first resource manager, a first granted lease for the second requested resource from the second resource manager.

in response to receiving the first granted lease for the second requested resource, sending a second granted lease to the resource requester by the first resource manager.

in response to the detected oversubscribed condition, reducing a requested lease period in the second granted lease.

retrieving a predetermined data path that has been previously stored after a dynamic discovery process of devices within the distributed data processing system.

detecting an oversubscribed condition on the resource; and

detecting an error condition; and

reducing a lease period for the lease grant.

first receiving means for receiving a lease request  
for a resource;

sending means for sending, in response to securing leases on a logical circuit of resources, a lease grant for the resource.

second receiving means for receiving, at a first resource manager, a request from a resource requester to lease a first requested resource for a requested lease period.

determining means for determining a data path through the distributed data processing system between the resource requester and the requested resource;

requesting means for requesting, by the first resource manager, a lease from a second resource manager for a second requested resource along the data path, wherein use of the first requested resource requires use of the second requested resource; and

third receiving means for receiving, at the first resource manager, a first granted lease for the second requested resource from the second resource manager.

- 5 12. The apparatus of claim 11, wherein the first sending means further comprises:

second sending means for sending, in response to receiving the first granted lease for the second requested resource, a second granted lease to the  
10 resource requester by the first resource manager.

13. The apparatus of claim 12 further comprising:

first detecting means for detecting an  
oversubscribed condition on the first requested resource;  
15 and

first reducing means for reducing in response to the detected oversubscribed condition, a requested lease period in the second granted lease.

- 20 14. The apparatus of claim 11, wherein the determining means further comprises:

retrieving means for retrieving a predetermined data path that has been previously stored after a dynamic discovery process of devices within the distributed data  
25 processing system.

15. The apparatus of claim 9 further comprising:

second detecting means for detecting an  
oversubscribed condition on the resource; and  
30 second reducing means for reducing a lease period for the granted lease.

AUS9-2000-0699-031

16. The apparatus of claim 9 further comprising:  
third detecting means for detecting an error  
condition; and

third reducing means for reducing a lease period for  
the lease grant.

17. A computer program product on a computer readable  
medium for use in a data processing system for managing  
resources within the distributed data processing system,  
the computer program product comprising:

first instructions for receiving a lease request for  
a resource;

instructions for securing, in response to receiving  
the lease request, leases on a logical circuit of  
resources through the distributed data processing system;  
and

first instructions for sending, in response to  
securing leases on a logical circuit of resources, a  
lease grant for the resource.

18. The computer program product of claim 17, wherein  
the first instructions for receiving further comprises:

second instructions for receiving, at a first  
resource manager, a request from a resource requester to  
lease a first requested resource for a requested lease  
period.

19. The computer program product of claim 18, wherein  
the instructions for securing further comprises:

instructions for determining a data path through the  
distributed data processing system between the resource  
requester and the requested resource;

instructions for requesting, by the first resource manager, a lease from a second resource manager for a second requested resource along the data path, wherein use of the first requested resource requires use of the second requested resource; and

third instructions for receiving, at the first resource manager, a first granted lease for the second requested resource from the second resource manager.

20. The computer program product of claim 19, wherein the first instructions for sending further comprises:

second instructions for sending, in response to receiving the first granted lease for the second requested resource, a second granted lease to the resource requester by the first resource manager.

21. The computer program product of claim 20 further comprising:

first instructions for detecting an oversubscribed condition on the first requested resource; and

first instructions for reducing in response to the detected oversubscribed condition, a requested lease period in the second granted lease.

22. The computer program product of claim 19, wherein the instructions for determining further comprises:

instructions for retrieving a predetermined data path that has been previously stored after a dynamic discovery process of devices within the distributed data processing system.

AUS9-2000-0699 S1

23. The computer program product of claim 17 further comprising:

second instructions for detecting an oversubscribed condition on the resource; and

5 second instructions for reducing a lease period for the granted lease.

24. The computer program product of claim 17 further comprising:

10 third instructions for detecting an error condition; and

third instructions for reducing a lease period for the lease grant.

15 25. A network comprising:

first receiving means for receiving a lease request for a resource;

20 securing means for securing, in response to receiving the lease request, leases on a logical circuit of resources through the distributed data processing system; and

sending means for sending, in response to securing leases on a logical circuit of resources, a lease grant for the resource.

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26. The network of claim 25, wherein the first receiving means further comprises:

30 second receiving means for receiving, at a first resource manager, a request from a resource requester to lease a first requested resource for a requested lease period.

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27. The network of claim 26, wherein the securing means further comprises:

determining means for determining a data path through the distributed data processing system between the resource requester and the requested resource;

requesting means for requesting, by the first resource manager, a lease from a second resource manager for a second requested resource along the data path, wherein use of the first requested resource requires use of the second requested resource; and

third receiving means for receiving, at the first resource manager, a first granted lease for the second requested resource from the second resource manager.

28. The network of claim 27, wherein the first sending means further comprises:

second sending means for sending, in response to receiving the first granted lease for the second requested resource, a second granted lease to the resource requester by the first resource manager.

29. The network of claim 28 further comprising:

first detecting means for detecting an oversubscribed condition on the first requested resource; and

first reducing means for reducing in response to the detected oversubscribed condition, a requested lease period in the second granted lease.



AUS9-2000-0699 S1

30. The network of claim 27, wherein the determining means further comprises:

retrieving means for retrieving a predetermined data path that has been previously stored after a dynamic  
5 discovery process of devices within the distributed data processing system.

31. The network of claim 25 further comprising:

second detecting means for detecting an  
10 oversubscribed condition on the resource; and  
second reducing means for reducing a lease period for the granted lease.

32. The network of claim 25 further comprising:

15 third detecting means for detecting an error condition; and

third reducing means for reducing a lease period for the lease grant.

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